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ABSTRACT

This case study describes the educational history and current program of Mike, a mainstreamed sixth-grader with deaf-blindness. It addresses the boy's successes and the ongoing challenges faced by his family, his educational team, and his peers. Background information notes his diagnosis of total blindness and moderate to severe hearing loss, his integration since preschool, and the support provided for his community school setting. In addition to classroom-based instruction, Mike receives special instruction in basic academic skills, orientation and mobility, and braille/computer skills. The case study briefly describes family involvement and support, the school setting, and special education supports and services. Factors related to the relatively successful outcomes of Mike's program are identified, including administrative support, team decision making, student-teacher "matching," "fluidity" in teaching roles and methods, social accommodation in the physical environment, facilitation by the assistant teacher, peer problem solving, peers' attitudes and acceptance, and changes in qualities of peer interaction. Challenges and long-term issues are also addressed. These include coordination of orientation and mobility services, balance between providing support and promoting independence, entry into seventh grade, development of long-term friendships, and maintaining satisfactory learning outcomes. (DB)

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ED 396 493

Social Relationships of Children and Adolescents with Deaf-Blindness Research Project

Case Study
Mike's Educational Program: Long Island, New York

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SOCIAL RELATIONSHIPS OF STUDENTS WHO ARE DEAF-BLIND

Mike's Educational Program: Long Island, New York

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"What happened when the canary flew into the electric fan?" "It became shredded tweet." So goes one of Mike's favorite jokes. Mike is well known in his school as a child with a penchant for jokes, riddles, ditties, and rhymes. He collects them, memorizes them, and offers them to small audiences of appreciative peers. Mike, who is deaf-blind, is twelve years old and a sixth grader in his community school which he has attended since kindergarten. He has been described by his parents and teachers as having near average academic abilities but immature social behaviors with associated problems in his social relations. Mike participates in all school activities with his peers. However, aside from telling jokes to his classmates, his social interactions during these activities are often limited. This summary report provides a description of Mike's unique educational program, its successes, and the ongoing challenges that Mike, his family, his educational team, and his peers are addressing.

I. General Background Information

There are approximately 900 students with deaf-blindness registered under the federal child count program in New York State. The majority of these students attend specialized programs for children with disabilities. Twenty four students with deaf-blindness are identified as attending regular classes (versus special class, separate school, residential school, etc.). However, there are only eight students statewide who are known to have as their primary educational program a fully inclusive, regular classroom. Mike was one of the first students with deaf-blindness in New York State to attend his general education neighborhood school.

Mike was diagnosed during infancy as having retinal vascular aplasia which resulted in total blindness bilaterally. A sloping moderate to severe bilateral sensori-neural hearing loss was not identified until he was three and a half years old. The etiology of Mike's hearing loss is unknown. He uses a cane to ambulate independently, reads braille, and wears bilateral hearing aids with an FM unit for amplification in the classroom. Mike communicates expressively and receptively through spoken language.

As an infant and toddler Mike received early intervention and vision services at home. His first school experience was an integrated preschool program for children with and without visual impairments. With the help and support of the New York State Commission for the Blind, Mike began the regular education kindergarten program with other 5-year-old children at his local school. As he advanced through the primary grades, his parents and teachers became increasingly concerned about his academic and social progress. When he was 9 years old, it was decided that Mike would repeat the third grade because he appeared to be socially immature. Whenever he became frustrated, he tended to cry. He needed frequent teacher support to work on classroom assignments. He showed little interest in interacting with classmates. Mike repeated the third grade, and during the year, he showed some improvement in his social behaviors. However, prior to Mike's fourth-grade year, school personnel and Mike's parents continued to be concerned about his progress. His parents began to question whether Mike's educational needs were adequately addressed in a general education setting. Similarly, school staff members were not totally confident about their abilities to continue to provide the extensive supports and services he required. Further, an independent psychoeducational evaluation had made the initial recommendation that Mike be educated in a special school program designed for children with visual impairments or deaf-blindness. In response to these concerns, Mike's parents contacted the American Foundation for the Blind (AFB) regarding possible support and placement options for his school program.

Over this period of time, a project entitled "Social Relationships of Children and Adolescents with Deaf-Blindness," based at the Developmental Disabilities Center of St. Luke's-Roosevelt Hospital Center, was beginning to conduct observational research in several schools in the New York City metropolitan area. Through AFB, Mike's mother was informed of this project, and she subsequently contacted and met with project staff members to discuss Mike's educational situation. The project did not suggest what educational program was most appropriate for Mike, but offered to provide support to Mike and his teachers around social interactions and relationships if the educational team decided that Mike should continue to attend his community school. Shortly thereafter, it was decided that Mike would enroll in the fourth grade of his school for the 1993-94 academic year. He has continued attending his community school to date.

Mike's educational program has been designed to accommodate his academic and social needs through a combination of classroom-based and individual instruction. He currently spends the majority of his school day with his peers. Specialized instruction takes place in the resource room three times per week where he works with a special education teacher either individually or in a small group on writing, reading, comprehension and problem solving skills. Mike also receives orientation and mobility instruction three times per week for trailing and cane use, and braille/computer instruction daily in the morning before school. Mike participates in regular physical education.

II. Family Involvement and Support

Mike lives at home with his mother, father, and 14-year-old older sister. The family lives in a small town located in a rural/suburban setting in Eastern Long Island, approximately 80 miles east of New York City. Families who live in this community represent a wide range of socioeconomic groups, but are most are in the middle income group. Most families, like Mike's, are white.

Mike's mother, an accountant, and father, a lawyer, have always been very involved in the community. His mother was elected as a Trustee to the town's school board in 1993 and serves as the president of the board for the 1995-96 school year. She also volunteers at the school once a week. Mike's parents have made a strong commitment to creating opportunities which enable him to socially interact with peers his age. He attends Sunday School with other children his age, and participates in afterschool swimming and chorus. Although Mike's parents are satisfied with these programs, they have expressed concern about the availability of integrated community activities for Mike outside of school. They also would like Mike to eventually develop interests in activities that will serve to bring him closer to his peers outside of school, or that he can do on his own, such as fishing.

III. School Description

The local school district includes one elementary school for primary grades K through 3, and an upper elementary to middle school for grades 4 through 8. The schools are about 2 miles apart. High school students attend schools in neighboring towns. The upper elementary/middle school which Mike attends serves approximately 650 students in grades 4 through 8. Of these, approximately 50 students (less than 10%) receive some form of special educational service. The majority of the student body is white (93%), but there are students of African American, Hispanic, Asian, and Native American descent. Approximately 7% of the families who have a child enrolled in the local school district are recipients of AFDC.

There were 24 students in Mike's fifth grade class. This is an average class size for the school, as the typical student-teacher ratio is 24:1. The estimated average per pupil expenditure is $8,900 (1994-95). The cost of Mike's educational program, which includes all specialized services (e.g., orientation and mobility instruction, braille instruction, resource room, assistant teacher) and assistive devices (e.g., brailler, laptop computer, brailled materials), is estimated to be $86,000 (1994-95). Like many school

districts in New York State, the local school district in Mike's community contracts the Board of Cooperative Educational Services (BOCES), a private consortium, to provide specialized educational services to students with disabilities. BOCES has its own school facilities and educational staff to serve students with severe disabilities. However, administrators in Mike's school have maintained interest in educating students with disabilities in their schools. Within the two school buildings, there are several students with disabilities (cerebral palsy, Down Syndrome, severe learning disabilities) who are enrolled in general educational classrooms.

IV. Special Education Supports and Services

Each year, an assistant teacher assigned to Mike works with him and the general education classroom teacher. It is the assistant teacher's responsibility to adapt materials and lessons for Mike, provide direct support to Mike, and to work with other related-service providers. The assistant teacher also works with other students in the classroom. During part of Mike's fourth-grade year, he had an assistant teacher who was certified in Special Education. For the latter part of the fourth grade and the entire fifth-grade year, Mike had a different assistant teacher who was certified in elementary education.

Mike does have some pull-out special services. Each morning for a period of about 45 minutes, prior to the official start of the school day, he has individual braille instruction. He works with an instructor who teaches Mike to use his brailler and computer, and helps to translate textbook and other material from print to braille. Mike also has resource room for 25 minutes each day during which he works on his school assignments or small-group learning activities. Usually, one to three other students are in the resource room with him. Mike also has individual and small-group speech and language therapy several times per week to enhance his general language and conversational skills. Mike is with his classmates for other academic areas, including social studies, science, gym, health, math, and language arts. In gym, he takes active part in the games and sports activities. His gym teacher attempts to accommodate Mike in

these activities by having him go through general exercise routines (with help from his teacher assistant), and by assigning him specific roles in team sports (e.g., designated server in volleyball).

Assistive technology and adapted materials play a large role in enabling Mike to complete his schoolwork. He independently uses a brailler in the classroom, a computer equipped with a speech synthesizer, a talking calculator, a talking dictionary, and brailled books and maps.

V. Factors Related to Successful Outcomes

Several key factors can be attributed to the successful development and maintenance of Mike's educational program. His parents and school staff have constantly monitored Mike's progress, difficulties, and needs. Even on those occasions when the parent-school relationship has been challenged, neither parents nor school personnel lost sight of Mike's best interests. The general components that have ensured the success of Mike's program include consistent administrative support, willingness of teachers to adapt their teaching and classroom environments, acceptance by his peers, and Mike's own interest and desire. These are summarized as follows:

(1) Administrative Support. A major factor contributing to Mike's successful educational program has been the strong commitment of his school principal and other administrators in the local district. The principal has had a "hands-on" approach in working closely with Mike's parents and educators since Mike first entered the school as a kindergarten student. Over the years, he has advocated for Mike's enrollment in his school, and has given the proper supports and accommodations. Periodic meetings have been called to review Mike's progress and needs, and to review staff concerns, even though the meetings were not mandated. The principal had never regarded Mike's enrollment in his school as an "inclusive" program, but viewed it simply as the place where Mike would receive the best education. Although Mike has now entered the middle school with a different principal, the elementary school

principal, who knows him very well, continues to be involved in his program and works closely with his educators, parents, and consultants.

(2) Team Decision Making. The principal has constantly elicited input from the staff as well as outside specialists regarding various issues and problems. These recommendations have assisted the educational team to make important decisions, both major and minor, regarding necessary changes or adaptations in the delivery of services. For example, in an effort to accommodate Mike's unique needs without reducing amount of time he is in his classroom, Mike receives braille instruction in the morning before the school day begins. Mike also works in the resource room during the classroom "independent work" period while his peers are similarly working individually or in small groups. In addition, the principal, teaching staff, consultants, and private instructors have worked together to identify needed equipment and adaptations which promote Mike's learning and participation. For example, the school recently purchased an auditory scanner which allows Mike to use the same reading materials as his peers, saving valuable time previously spent brailling the text. In addition, upon switching to a new school building, in an effort to make the building more accessible to Mike, staff determined that it would be beneficial to braille all of the classroom door signs indicating the room number and teacher's name as it appeared in the written format. This not only made traveling the hallways an easier and independent action for Mike, but raised the awareness of other students of the needs of students with disabilities.

(3) Student-Teacher "Matching". For the past several years, the principal has carefully selected Mike's primary teachers. Near the end of each academic year, Mike's prospective teacher was selected on the basis of experience, interest, background, teaching style, and several other factors, and planning meetings were initiated to prepare for the following academic year. In addition to selecting Mike's teacher, his potential classmates were also reviewed so that some would continue with Mike into

the next year whereas others would be assigned to different teachers. Classmates were also selected on the basis of several factors, and were not necessarily those who were most comfortable or friendliest with Mike. Care was taken to select classmates who could be socially supportive but not overprotective or too "nurturing." While there would be some continuity in Mike's classmates from one year to the next, the majority of classmates would be new.

(4) "Fluidity" in Teaching Roles and Methods. Mike's teachers have proven to be an important key factor in the success of his program over the past few years. His classroom teachers (used to working alone in their room, as most teachers do) have learned to work closely with the assistant teacher. Each have assumed "fluid" roles that enable them to change their degree of direct involvement according to the particular moment, need, or activity. The roles and responsibilities of the teacher and assistant teacher change in relation to different situations. For example, while the assistant teacher's primary responsibility is provide support to Mike, she also may conduct a large group or whole class lesson while the classroom teacher works directly with Mike. Mike's teachers have similarly been prepared to work collaboratively with members of the research project on social relationships, his braille instructor, his orientation and mobility instructor, his speech therapist, and others. Mike's fourth grade teacher described the interactions among personnel in this way: "Initially I thought my classroom would be like Grand Central Station, but now I find that the team planning we've received from St. Luke's [Social Relationships Project] and from the resource people has been such a feeling of community -- a feeling of togetherness. I think the kids feel it in the class."

As members of a cohesive team, Mike's teachers have been able to: listen and respond to suggestions; actively seek new information and try new methods to engage Mike in educational activities; adapt their own teaching styles; be flexible in their professional roles to accommodate Mike, his classmates, and colleagues;

immediately identify and respond to potential concerns or problems; respect the opinions of Mike and his classmates; and engage in problem solving to increase Mike's participation as opposed to determining whether he fits in.

(5) Social Accommodation in the Physical Environment. Mike's teachers have also learned the significance of the arrangement of the physical environment in promoting Mike's interest in activities, his ability to work with peers, his sense of belonging as an equal member of the class, and his independence. They carefully organized the seating arrangements, through trial and error, to find which desk location or arrangement best accommodated Mike's dual sensory impairments while maximizing his opportunities for peer interaction. Mike's physical presence and the location of his desk in relation to his peers and the teacher have been critical to the success of his inclusion and participation in classroom activities. Over the course of his fifth-grade year, when the classroom teacher felt that it was important to change Mike's seat, several students shifted positions (as opposed to merely moving Mike's desk or having him exchange places with one other person). At one point, the entire classroom desk arrangement was shifted so that students could work together more effectively in small-groups. Various factors were weighed by Mike's teacher in selecting his desk location. At the beginning of the year, it was thought that Mike should be close to his assistive equipment (brailler, computer), and sat in one convenient corner of the classroom. However, his teacher began to sense that Mike was socially removed in this location, and put him closer to the center. Later in the year, Mike's teacher and assistant teacher felt that with Mike so close to his assistant teacher's desk, he tended to interact with her more than with classmates during group activities. Consequently, the assistant teacher's desk was relocated.

(6) Assistant Teacher's Facilitation. Mike's assistant teacher recognized that in order for Mike to be a member of the class, she needed to step away during certain situations and give him time and space to be with his peers. While it is difficult for many

educators to assume the role of "facilitator", she came to understand when to provide adult assistance and when to move away. By doing so, she was able to help Mike achieve greater independence in the classroom, which resulted in increased social and learning opportunities for him and his peers. Further, by teaching the entire class for certain lessons, and by being an assistant to other students during work time or small-group projects, she was seen less as "Mike's helper" and more as another educator in the classroom.

(7) Peer Problem Solving. In both the fourth and fifth grades, Mike's teachers were willing to try new teaching strategies in an effort to increase his participation and accommodate his needs. His teachers used cooperative learning and peer tutoring activities. They also involved (and sometimes relied on) his peers to "problem-solve" certain issues regarding his participation in classroom and school activities. For example, in the fourth grade a few of Mike's classmates noticed that during chorus, while the other students were singing, Mike either sat or stood alone. The students mentioned this to their classroom teacher, who in turn called a group meeting so that everyone could work together to identify a solution to the problem. The students decided to take active roles in making sure that Mike was able to participate; one student helped braille the music sheets so he could follow along and another suggested rehearsing with him during recess so he would be familiar with the material. Mike's fourth grade teacher credits the use of these "peer-planning" sessions with helping to bring Mike out of isolation and more into the community of the class. In retrospect, this teacher noted that peer-planning strategies were one of the more fundamental actions she did in the beginning of the year which served to help set the tone and break down potential barriers.

(8) Peers' Attitudes and Acceptance. Each year, there has been some concern about peers' interest in developing social relationships with Mike. This was of particular concern at the onset of fourth-grade, as his teacher described her class as "not the

most mature." Observations over the course of the year, however, indicated that all students became increasingly comfortable with Mike's presence, if not actively involved in seeking to develop friendships. During the first part of the academic year, students who did not know Mike would frequently turn and stare at him, especially when he made unexpectedly loud remarks in class, cried after becoming easily frustrated, or engaged in "stereotypic" behaviors such as vigorously rolling his head back and forth, which he was inclined to do when he was left alone. As the year progressed, however, classmates tended to ignore these behaviors. In addition, a few of the boys would occasionally ask Mike what was wrong when he began to cry, and to explain to him that instead of crying, he should talk about what had upset him. The crying incidents decreased considerably. Mike was also very sensitive to loud noises, such as the bells going off in the hallway between periods. To help Mike become less frightened, a few students walked with him one day, approached one of the bells, gave it a name, and "desensitized" Mike by calming him when the bell rang.

Toward the end of the fourth grade, a group of peers were interviewed to gain insight into their relationships with, and acceptance of, Mike. During this interview, they described some of their initial thoughts upon first learning of their classmate who was deaf-blind: "It was kind of different [the first time I met Mike because] I never met someone who was blind. I never met someone who has a disability." "I was scared because I didn't know how I'd handle it when I first met him, but then it felt good when I knew I could be friends with him." Mike's peers unanimously agreed that the community school offered the best educational program for Mike because he would be with people he knew and would learn more important things for the future. They added that it was also good for them to "get used to other people." His classmates were asked if there was anything they could do that Mike could not do because of his deaf-blindness. After a pause, one boy replied "rollerblading," then

quickly retracted it after he noted that Mike could rollerblade if his classmates helped him the right way.

It is also important to note that several of Mike's peers respected his unique behaviors. During interviews with peers, some made remarks about Mike's "weird" behaviors, such as his tendency to rock his head vigorously when he was not engaged in an activity. This often occurred in the lunchroom, when Mike sat off by himself at one corner of a table with his hearing aids turned off. Peers used the term "weird" not as a means to reject or make fun of Mike, but as a way to honestly characterize behaviors they openly recognize and talk about as being bizarre. Yet, they have accepted the behaviors as part of Mike's personality, and even advocated in the interview that Mike's privacy and right to engage in these behaviors should be respected. When Mike is frustrated or tired, he tends to engage in socially inappropriate or self-stimulatory behaviors such as crying, hand flapping, eye poking, or talking to himself. Both teachers and peers have noticed that these behaviors have decreased in part because of the support his classmates have provided.

(9) Changes in Qualities of Peer Interaction. Mike's teachers have made consistent efforts to make sure that Mike's needs would be spontaneously attended to by his peers. Through their use of peer problem-solving and peer tutoring during the fourth- and fifth-grade years, Mike's classmates have increasingly learned how to provide support and assistance in ways that encourage his participation and increase his independence. For example, two to four students including Mike might work together in a small reading group. One student (rotating from one day to the next) might work with Mike to read aloud the math problems from the textbook. Two students might be assigned to help Mike in the hallways and lunchroom for a week. However, as a consequence of these needs and supports, Mike's teacher and principal have constantly been aware that Mike's peers might view him as a younger student or a disabled student who required help, and that the interactions Mike had would be

initiated around his needs for help, rather than for truly social purposes. Indeed, students were quick to look for ways to help Mike, even when assistance was not truly necessary. Observations over the course of the fourth- and fifth-grade years confirmed that the majority of interactions involving Mike and his peers were those in which Mike was given some form of help. Yet, in the course of each year, there were gradual increases in interactions of the social type. Some boys would "horse around" with Mike, as they would with others. In one observation, for instance, one boy would sneak up on Mike, tap or poke him, then back off, leaving Mike to wonder who had approached him. Both Mike and the boy appeared to enjoy this game in which Mike's blindness was obviously a critical element. Later in the year, Mike's teacher identified this boy as a peer with whom Mike had developed close relationship. As another example, during the fourth grade, one of Mike's classmates took it upon himself to construct a tactile tic-tac-toe board at home that he and Mike could play the game together during recess.

Mike's own personality has contributed to changes in qualities of interaction. He is pleasant and has a good sense of humor. By intention or not, his comments in the class often amuse others. For example, his teacher reported that one day, she told the class to stop what they were doing and to look at her. Mike blurted out, "I can't-- I'm blind", then laughed along with his classmates.

VI. Challenges, Concerns, and Long-Term Issues

During the period of time in which staff members of the social relationships project observed Mike's educational program, various challenges and problems have arisen. Most of these involved differences of opinion in the delivery of educational services to Mike, coordination among some related service providers, the balance between Mike's need for assistance and his need to become more independent, and the development of significant social relationships and activities with peers outside of Mike's educational program.

(1) Coordination of Orientation and Mobility Services. Mike's orientation and mobility instruction has proven to be a complex issue for both the parents and school staff. As noted, Mike receives instruction at school twice a week and at home once a week. He has two different instructors from two different agencies. The school instructor has been teaching Mike basic skills around the school grounds while the home-based instructor has worked on skills required in the community and the home. However, the two instructors had not communicated with each other, and had been teaching Mike different techniques. For example, one issue of concern was whether Mike should use his cane in the school building (which he now does). Another issue involved the arc of the cane as Mike moved from side to side. It was difficult for the school principal to coerce communication between the instructors, since each had come from agencies outside of the school. Mike's parents also had several unanswered questions about which techniques or strategies would be most effective for Mike. During the fifth-grade, coordination of orientation and mobility services was a frequent educational concern.

(2) Balance Between Providing Support and Promoting Independence. The balance between providing Mike appropriate levels of support and assistance, on the one hand, and promoting his independence and social maturity, on the other hand, has also been a recurring issue. There have been occasional differences of opinion between Mike's parents and members of the educational staff regarding the degree of assistance Mike requires, and how to best promote his independence. At times, Mike's parents were concerned that he was not being given sufficient opportunities to learn skills or perform tasks as independently as possible. In contrast, Mike's teachers felt that, while promoting Mike's independence was critical to his development and educational goals, there were also times in which it became necessary to assist him directly so that he could keep pace with his classmates. For example, Mike is able to get his books, papers, and computer together to start a lesson, but if a peer provides

assistance, it can ensure that Mike begins the lesson at the same time and in the same place as others. Over the fourth- and fifth-grade years, Mike's parents, his principal, and his teachers have discussed the issue, sometimes disagreeing among themselves, but always sensitive to the balance between helping Mike and promoting his independence.

(3) Entry into Seventh Grade. In the seventh grade, students begin to move from one class to another, as they have different teachers and classmates in each subject area. In the elementary grades, Mike's classmates have been constant across the day, which has made it easier for him to get to know others, and vice versa. As Mike approaches the seventh grade, there are several concerns in regard to his social interactions and relationships with others, as well as his ability to meet more complex social demands. In the fourth- and fifth-grade years, it took Mike a very long time to learn the names of his peers (well into the academic year), even of those who are closest to him. With frequent changes of classmates, increased confusion is likely. In addition, Mike's teachers have usually been very carefully selected, as discussed earlier. In the seventh grade, he will need to accommodate to many different teachers, who will also need to accommodate him. The same degree of communication that Mike's teachers have achieved in the past would be more difficult to maintain as a result of the team's complexity. Ensuring that Mike's peers continue to offer assistance, support, and social involvement is also of concern, given the changes of classmates from one period to the next.

(4) Development of Long-Term Friendships. Over the past two years Mike has developed a friendship with at least one boy in his class that has lasted for the duration of a school year and slightly beyond. As noted throughout the years, several girls in his class have chosen to spend time with him during free periods of the day such as recess. Some of these girls have remained friends with him over a period of two or three years. Although Mike does not initiate the development of these

friendships, he is receptive when someone takes an interest in him. The outcome, however, is that the relationship lasts only for as long as the peer continues to make the effort. In a comparison of Mike's beginning- and end-of-year social networks, it was noted that the number of classmates defined as "friends" by his fifth-grade teacher increased from three at the beginning to nine by the end of the year. Despite these positive interactions and experiences, it is interesting to note that aside from the occasional birthday party, Mike has been infrequently invited to other's homes, and few classmates have visited him in his home.

When Mike is involved in conversations with peers, including those few peers who are very familiar and patient with him, the impact of his dual sensory impairment is evident. Since he is unable to pick up on the visual cues of facial expressions and gestures, he often misses the subtle nuances of group interactions. Of concern is that peers may find it easier not to include him in some activities and interactions. As Mike gets older and as social interests of teenagers change, Mike's social inclusion is likely to be of increased concern.

It has been noted by Mike's parents and educators that Mike has fewer friends than the average student. Even in this community school, the inconsistency of Mike's friendships suggests that he would benefit from more formal methods for building and enhancing his relationships with peers, such as identifying certain peers and classmates to plan Mike's involvement in social and educational activities.

(5) Learning Outcomes. Mike is described as a "B" student who has consistently maintained an average academic record in school. However, as the material in the upper grades becomes more complex, there is a concern that he will have difficulty keeping pace with his classmates. It takes him longer to complete some assignments. Furthermore, some grade-level concepts are difficult to grasp given that he works in braille. For example, his teacher has wondered how to braille a long division math problem. The school has attempted to solve such issues through the use of a laptop

computer with adaptive devices for blind users, or by allowing him to use a talking calculator for math or a talking dictionary to check spelling.

VII. Summary

Although it is impossible to predict Mike's academic and social achievement in the coming years, the commitment and support displayed thus far by his educational team serves as a positive model of how an "inclusive" education program can successfully meet the comprehensive needs of a student who is deaf-blind. All members of his team, including the principal, educational staff, parents, and students, have made considerable efforts to promote Mike's full academic and social involvement in his community school.